

WHAT IS CLAIMED IS:

1. An isolated antibody or portion thereof capable of specifically binding to at least one epitope of a heparanase protein, said heparanase protein being at least 60% homologous to the amino acid sequence of any of SEQ ID NOs:1-5 and 11.
2. The isolated antibody or portion thereof of claim 1, wherein said heparanase protein is at least 70% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.
3. The isolated antibody or portion thereof of claim 1, wherein said heparanase protein is at least 80% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.
4. The isolated antibody or portion thereof of claim 1, wherein said heparanase protein is at least 90% homologous to the amino acid sequence of any of SEQ ID Nos: 1-5 and 11.
5. The isolated antibody or portion thereof of claim 1, wherein said heparanase protein comprises an amino acid sequence as set forth in any of SEQ ID NOs: 1-5 and 11.
6. The isolated antibody or portion thereof of claim 1, wherein said at least one epitope comprises a sequence being at least 70% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.
7. The isolated antibody or portion thereof of claim 1, wherein said at least one epitope is at least 80% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

8. The isolated antibody or portion thereof of claim 1, wherein said at least one epitope is at least 90% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

9. The isolated antibody or portion thereof of claim 1, wherein said at least one epitope comprises an amino acid sequence as set forth in any of SEQ ID NOs: 6-10.

10. The isolated antibody or portion thereof of claim 1 comprising a polyclonal antibody.

11. The isolated antibody or portion thereof of claim 10 wherein said polyclonal antibody is selected from the group consisting of a crude polyclonal antibody and an affinity purified polyclonal antibody.

12. The isolated antibody or portion thereof of claim 1 comprising a chimeric antibody.

13. The isolated antibody or portion thereof of claim 1 comprising a humanized antibody.

14. The isolated antibody or portion thereof of claim 1 comprising an Fab fragment.

15. The isolated antibody or portion thereof of claim 1 comprising a single chain antibody.

16. The isolated antibody or portion thereof of claim 1 comprising an immobilized antibody.

17. The isolated antibody or portion thereof of claim 1 comprising a labeled antibody.

18. The isolated antibody or portion thereof of claim 1 comprising a monoclonal antibody.

19. The isolated antibody or portion thereof of claim 1, wherein said at least one epitope is selected from the group consisting of a heparan-sulfate binding site flanking region, a catalytic proton donor site, a catalytic nucleophilic site, an active site and binding site linking region and a C-terminal sequence of heparanase P8 subunit.

20. The isolated antibody or portion thereof of claim 1, wherein said heparanase protein is substantially free of contaminating proteins, as determined by an assay selected from the group consisting of immunodetection, gel electrophoresis and catalytic activity.

21. The isolated antibody of claim 1, wherein said heparanase protein is a recombinant heparanase protein.

22. A hybridoma cell line for producing a monoclonal antibody, comprising a cell line for producing the monoclonal antibody of claim 18.

23. The hybridoma cell line of claim 22 wherein the antibody or portion thereof is humanized.

24. An isolated antibody or portion thereof elicited by at least one epitope of a heparanase protein, said heparanase protein being at least 60% homologous to the amino acid sequence of any of SEQ ID NOs:1-5 and 11.

25. The isolated antibody or portion thereof of claim 24, wherein said heparanase protein is at least 70% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

26. The isolated antibody or portion thereof of claim 24, wherein said heparanase protein is at least 80% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

27. The isolated antibody or portion thereof of claim 24, wherein said heparanase protein is at least 90% homologous to the amino acid sequence of any of SEQ ID Nos: 1-5 and 11.

28. The isolated antibody or portion thereof of claim 24, wherein said heparanase protein comprises an amino acid sequence as set forth in any of SEQ ID NOs: 1-5 and 11.

29. The isolated antibody or portion thereof of claim 24, wherein said at least one epitope comprises a sequence being at least 70% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

30. The isolated antibody or portion thereof of claim 24, wherein said at least one epitope is at least 80% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

31. The isolated antibody or portion thereof of claim 24, wherein said at least one epitope is at least 90% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

32. The isolated antibody or portion thereof of claim 24, wherein said at least one epitope comprises an amino acid sequence as set forth in any of SEQ ID NOs: 6-10.

33. A method for treating a subject suffering from a pathological condition, the method comprising administering a therapeutically effective amount of the anti-heparanase antibody or portion thereof of claim 1.

34. The method of claim 33, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

35. The method of claim 33, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

36. The method of claim 33, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID Nos: 1-5 and 11.

37. The method of claim 33, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs: 1-5 and 11.

38. The method of claim 33, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 60% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

39. The method of claim 33, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

40. The method of claim 33, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

41. The method of claim 33, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

42. The method of claim 33, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs:6-10.

43. The method of claim 33, wherein said pathological condition is selected from the group consisting of an inflammatory disorder, a wound, a scar, a vasculopathy and an autoimmune condition.

44. The method of claim 33, wherein said vasculopathy is selected from the group consisting of atherosclerosis, restenosis and aneurysm.

45. The method of claim 33, wherein said pathological condition is selected from the group consisting of angiogenesis, cell proliferation, a cancerous condition, tumor cell proliferation, invasion of circulating tumor cells and a metastatic disease.

46. The method of claim 45, wherein said cancerous condition is selected from the group consisting of a blood, breast, bladder, rectum, stomach, cervix, ovarian, colon, renal and prostate cancer.

47. The method of claim 33, wherein said anti-heparanase antibody is a monoclonal antibody.

48. The method of claim 47, wherein said monoclonal antibody is a humanized antibody.

49. The method of claim 47, wherein said monoclonal antibody is selected from the group consisting of HP130, HP 239, HP 108.264, HP 115.140, HP 152.197, HP 110.662, HP 144.141, HP 108.371, HP 135.108, HP 151.316, HP 117.372, HP 37/33, HP3/17, HP 201 and HP 102.

50. The method of claim 48, wherein said monoclonal antibody is elicited by a polypeptide selected from the group consisting of SEQ ID NOs:1-10.

51. The method of claim 33, wherein said anti-heparanase antibody is a heparanase neutralizing antibody.

52. A method for treating or preventing a heparanase-related disorder or condition in a subject, the method comprising administering a therapeutically effective amount of the anti-heparanase antibody or portion thereof of claim 1.

53. The method of claim 52, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

54. The method of claim 52, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

55. The method of claim 52, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID Nos: 1-5 and 11.

56. The method of claim 52, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs: 1-5 and 11.

57. The method of claim 52, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 60% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

58. The method of claim 52, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

59. The method of claim 52, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

60. The method of claim 52, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

61. The method of claim 52, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs:6-10.

62. The method of claim 52, wherein said heparanase-related disorder or condition is selected from the group consisting of an inflammatory disorder, a wound, a scar, a vasculopathy and an autoimmune condition.

63. The method of claim 62, wherein said vasculopathy is selected from the group consisting of atherosclerosis, restenosis and aneurysm.

64. The method of claim 52, wherein said heparanase-related disorder or condition is selected from the group consisting of angiogenesis, cell proliferation, a cancerous condition, tumor cell proliferation, invasion of circulating tumor cells and a metastatic disease.

65. The method of claim 64, wherein said cancerous condition is selected from the group consisting of a blood, breast, bladder, rectum, stomach, cervix, ovarian, colon, renal and prostate cancer.

66. The method of claim 52, wherein said anti-heparanase antibody is a monoclonal antibody.

67. The method of claim 52, wherein said anti-heparanase antibody is a humanized antibody.

68. The method of claim 66, wherein said monoclonal antibody is selected from the group consisting of HP130, HP 239, HP 108.264, HP 115.140, HP 152.197,

HP 110.662, HP 144.141, HP 108.371, HP 135.108, HP 151.316, HP 117.372, HP 37/33, HP3/17, HP 201 and HP 102.

69. The method of claim 66, wherein said monoclonal antibody is elicited by a polypeptide selected from the group consisting of SEQ ID NOs:6-10.

70. The method of claim 66, wherein said anti-heparanase antibody is a heparanase neutralizing antibody.

71. A method of detecting the presence of a heparanase polypeptide in a sample, the method comprising incubating said sample with a heparanase-specific antibody according to claim 1 in a manner suitable for formation of a heparanase polypeptide-antibody immune complex; wherein said heparanase-specific antibody is characterized by specifically binding to heparanase, and detecting the presence of said heparanase polypeptide-antibody immune complex to determine whether a heparanase polypeptide is present in the sample.

72. The method of claim 71, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

73. The method of claim 71, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

74. The method of claim 71, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID Nos: 1-5 and 11.

75. The method of claim 71, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs: 1-5 and 11.

76. The method of claim 71, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 60% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

77. The method of claim 71, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

78. The method of claim 71, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

79. The method of claim 71, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

80. The method of claim 71, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs:6-10.

81. The method of claim 71, wherein said anti-heparanase antibody is selected from the group consisting of HP130, HP 239, HP 108.264, HP 115.140, HP 152.197, HP 110.662, HP 144.141, HP 108.371, HP 135.108, HP 151.316, HP 117.372, HP 37/33, HP3/17, HP 201 and HP 102.

82. The method of claim 71, wherein said anti-heparanase antibody is a monoclonal antibody.

83. The method of claim 82, wherein said anti-heparanase antibody is a humanized antibody.

84. The method of claim 82, wherein said monoclonal antibody is elicited by a polypeptide selected from the group consisting of SEQ ID NOs:6-10.

85. The method of claim 71, wherein said anti-heparanase antibody is labeled with a labeling agent that provides a detectable signal.

86. The method of claim 85, wherein said labeling agent is selected from the group consisting of an enzyme, a fluorophore, a chromophore, a protein, a chemiluminescent substance and a radioisotope.

87. The method of claim 71, wherein said anti-heparanase antibody is a heparanase neutralizing antibody.

88. A method for detecting a heparanase-related disease or condition in a subject, the method comprising:

- (a) obtaining a biological sample from the subject;
 - (b) contacting said biological sample with a anti-heparanase antibody according to claim 1 in a manner suitable for formation of a heparanase polypeptide-antibody immune complex; and
 - (c) detecting the presence of said heparanase polypeptide- antibody immune complex to determine whether a heparanase polypeptide is present in the sample, wherein the presence or absence of said heparanase polypeptide- antibody immune complex indicates a heparanase-related disease or condition;
- thereby detecting a heparanase-related disease or condition in a subject.

89. The method of claim 88, wherein said subject is a vertebrate.

90. The method of claim 89, wherein said subject is a mammalian subject.

91. The method of claim 90, wherein said mammalian subject is a human subject.

92. The method of claim 88, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

93. The method of claim 88, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

94. The method of claim 88, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID Nos: 1-5 and 11.

95. The method of claim 88, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs: 1-5 and 11.

96. The method of claim 88, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 60% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

97. The method of claim 88, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

98. The method of claim 88, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

99. The method of claim 88, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

100. The method of claim 88, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs:6-10.

101. The method of claim 88, wherein said heparanase-related disorder or condition is selected from the group consisting of an inflammatory disorder, a wound, a scar, a vasculopathy and an autoimmune condition.

102. The method of claim 92, wherein said vasculopathy is selected from the group consisting of atherosclerosis, restenosis and aneurysm.

103. The method of claim 88, wherein said heparanase-related disorder or condition is selected from the group consisting of angiogenesis, cell proliferation, a cancerous condition, tumor cell proliferation, invasion of circulating tumor cells and a metastatic disease.

104. The method of claim 103, wherein said cancerous condition is selected from the group consisting of a blood, breast, bladder, rectum, stomach, cervix, ovarian, colon, renal and prostate cancer.

105. The method of claim 88, wherein said heparanase-related disorder or condition is a renal disease or disorder.

106. The method of claim 105, wherein said renal disease or disorder is selected from the group consisting of diabetic nephropathy, glomerulosclerosis, nephrotic syndrome, minimal change nephrotic syndrome and renal cell carcinoma.

107. The method of claim 88, wherein said biological sample is selected from the group consisting of serum, plasma, urine, synovial fluid, spinal fluid, tissue sample, a tissue and/or a fluid.

108. The method of claim 88, wherein said contacting said sample is performed in situ.

109. The method of claim 88, wherein said contacting said sample is performed in vitro.

110. The method of claim 88, wherein said anti-heparanase antibody is a monoclonal antibody.

111. The method of claim 88, wherein said anti-heparanase antibody is a humanized antibody.

112. The method of claim 110, wherein said monoclonal antibody is selected from the group consisting of HP130, HP 239, HP 108.264, HP 115.140, HP 152.197, HP 110.662, HP 144.141, HP 108.371, HP 135.108, HP 151.316, HP 117.372, HP 37/33, HP3/17, HP 201 and HP 102.

113. The method of claim 110, wherein said monoclonal antibody is elicited by a polypeptide selected from the group consisting of SEQ ID NOs:6-10.

114. The method of claim 88, wherein said anti-heparanase antibody is a heparanase neutralizing antibody.

115. A method for monitoring the state of a heparanase-related disorder or condition in a subject, the method comprising:

- (a) obtaining a biological sample from the subject;
- (b) contacting said biological sample with an anti-heparanase antibody according to claim 1 in a manner suitable for formation of a heparanase polypeptide-antibody complex;
- (c) detecting a presence, absence or level of said heparanase polypeptide-antibody complex to determine a presence, absence or level of a heparanase polypeptide in said biological sample;

(d) repeating steps (a) through (c) at predetermined time intervals; and
(e) determining a degree of change of said presence, absence or level of said heparanase polypeptide at said predetermined time intervals, said change indicating a state of the heparanase-related disorder or condition in said subject; thereby monitoring the state of the heparanase-related disorder or condition in said subject.

116. The method of claim 115, wherein said subject is a vertebrate.

117. The method of claim 116, wherein said subject is a mammalian subject.

118. The method of claim 117, wherein said mammalian subject is a human subject.

119. The method of claim 115, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

120. The method of claim 115, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

121. The method of claim 115, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID Nos: 1-5 and 11.

122. The method of claim 115, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs: 1-5 and 11.

123. The method of claim 115, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 60% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

124. The method of claim 115, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

125. The method of claim 115, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

126. The method of claim 115, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

127. The method of claim 115, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs:6-10.

128. The method of claim 115, wherein said heparanase-related disorder or condition is selected from the group consisting of an inflammatory disorder, a wound, a scar, a vasculopathy and an autoimmune condition.

129. The method of claim 128, wherein said vasculopathy is selected from the group consisting of atherosclerosis, restenosis and aneurysm.

130. The method of claim 115, wherein said heparanase-related disorder or condition is selected from the group consisting of angiogenesis, cell proliferation, a cancerous condition, tumor cell proliferation, invasion of circulating tumor cells and a metastatic disease.

131. The method of claim 130, wherein said cancerous condition is selected from the group consisting of a blood, breast, bladder, rectum, stomach, cervix, ovarian, colon, and prostate cancer.

132. The method of claim 115, wherein said heparanase-related disorder or condition is a renal disease or disorder.

133. The method of claim 132, wherein said renal disease or disorder is selected from the group consisting of diabetic nephropathy, glomerulosclerosis, nephrotic syndrome, minimal change nephrotic syndrome and renal cell carcinoma.

134. The method of claim 115, wherein said biological sample is selected from the group consisting of serum, plasma, urine, synovial fluid, spinal fluid, tissue sample, a tissue and/or a fluid.

135. The method of claim 115, wherein said contacting said sample is performed in situ.

136. The method of claim 115, wherein said contacting said sample is performed in vitro.

137. The method of claim 115, wherein said anti-heparanase antibody is a monoclonal antibody.

138. The method of claim 115, wherein said anti-heparanase antibody is a humanized antibody.

139. The method of claim 137, wherein said monoclonal antibody is selected from the group consisting of HP130, HP 239, HP 108.264, HP 115.140, HP 152.197, HP 110.662, HP 144.141, HP 108.371, HP 135.108, HP 151.316, HP 117.372, HP 37/33, HP3/17, HP 201 and HP 102.

140. The method of claim 115, wherein said monoclonal antibody is elicited by a polypeptide selected from the group consisting of SEQ ID NOs:6-10.

141. The method of claim 115, wherein said anti-heparanase antibody is a heparanase neutralizing antibody.

142. A pharmaceutical composition comprising the isolated anti-heparanase antibody or portion thereof of claim 1 and a pharmaceutically acceptable carrier.

143. The pharmaceutical composition of claim 142, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

144. The pharmaceutical composition of claim 142, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

145. The pharmaceutical composition of claim 142, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID Nos: 1-5 and 11.

146. The pharmaceutical composition of claim 142, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs: 1-5 and 11.

147. The pharmaceutical composition of claim 142, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 60% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

148. The pharmaceutical composition of claim 142, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

149. The pharmaceutical composition of claim 142, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

150. The pharmaceutical composition of claim 142, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

151. The pharmaceutical composition of claim 142, wherein said anti-heparanase antibody or portion thereof is capable of binding to at least one epitope comprising a sequence as set forth in any of SEQ ID NOs:6-10.

152. The pharmaceutical composition of claim 142, wherein said isolated anti-heparanase antibody or portion thereof is a monoclonal antibody.

153. The method of claim 142, wherein said anti-heparanase antibody is a humanized antibody.

154. The pharmaceutical composition of claim 152, wherein said monoclonal antibody is selected from the group consisting of HP130, HP 239, HP 108.264, HP 115.140, HP 152.197, HP 110.662, HP 144.141, HP 108.371, HP 135.108, HP 151.316, HP 117.372, HP 37/33, HP3/17, HP 201 and HP 102.

155. The pharmaceutical composition of claim 152, wherein said monoclonal antibody is elicited by a polypeptide selected from the group consisting of SEQ ID NOs:6-10.

156. A pharmaceutical composition comprising the isolated anti-heparanase antibody or portion thereof of claim 24 and a pharmaceutically acceptable carrier.

157. The pharmaceutical composition of claim 156, wherein said anti-heparanase antibody or portion thereof is elicited by at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

158. The pharmaceutical composition of claim 156, wherein said anti-heparanase antibody or portion thereof is elicited by at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID Nos:1-5 and 11.

159. The pharmaceutical composition of claim 156, wherein said anti-heparanase antibody or portion thereof is elicited by at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID Nos: 1-5 and 11.

160. The pharmaceutical composition of claim 156, wherein said anti-heparanase antibody or portion thereof is elicited by at least one epitope comprising a sequence as set forth in any of SEQ ID NOs: 1-5 and 11.

161. The pharmaceutical composition of claim 156, wherein said anti-heparanase antibody or portion thereof is elicited by at least one epitope comprising a sequence at least 60% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

162. The pharmaceutical composition of claim 156, wherein said anti-heparanase antibody or portion thereof is elicited by at least one epitope comprising a sequence at least 70% homologous to the amino acid sequence of any of SEQ ID NOs:6-10.

163. The pharmaceutical composition of claim 156, wherein said anti-heparanase antibody or portion thereof is elicited by at least one epitope comprising a sequence at least 80% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

164. The pharmaceutical composition of claim 156, wherein said anti-heparanase antibody or portion thereof is elicited by at least one epitope comprising a sequence at least 90% homologous to the amino acid sequence of any of SEQ ID NOs: 6-10.

165. The pharmaceutical composition of claim 156, wherein said anti-heparanase antibody or portion thereof is elicited by at least one epitope comprising a sequence as set forth in any of SEQ ID NOs:6-10.

166. The pharmaceutical composition of claim 156, wherein said anti-heparanase antibody is a monoclonal antibody.

167. The method of claim 156, wherein said anti-heparanase antibody is a humanized antibody.

168. The pharmaceutical composition of claim 167, wherein said monoclonal antibody is selected from the group consisting of HP130, HP 239, HP 108.264, HP 115.140, HP 152.197, HP 110.662, HP 144.141, HP 108.371, HP 135.108, HP 151.316, HP 117.372, HP 37/33, HP3/17, HP 201 and HP 102.

169. The pharmaceutical composition of claim 166, wherein said monoclonal antibody is capable of binding to a polypeptide selected from the group consisting of SEQ ID NOs: 6-10.

170. An affinity medium for binding human heparanase polypeptides, the medium comprising an anti-heparanase antibody according to claim 1 immobilized to a chemically inert, insoluble carrier.

171. The affinity medium of claim 170, wherein said chemically inert, insoluble carrier is selected from a group consisting of acrylic and styrene based polymers, gel polymers, glass beads, silica, filters and membranes.